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ALLEMAGNE

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COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☐ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☐ abstract

☒ title

☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract:

7

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
A,D	US 2002/079981 A1 (TANAKA YASUHIRO) 27 June 2002 (2002-06-27) * the whole document *	1-17	H01P1/387 H01P1/36
A	DE 15 91 268 B (MARCONI CO LTD) 8 October 1970 (1970-10-08) * column 1, line 66 - line 68; figures 3,4 *	1,13	
A	US 4 904 965 A (BLIGHT RONALD F ET AL) 27 February 1990 (1990-02-27) * figures 2,3A *	1,13	
A	US 3 831 114 A (PAGLIONE R) 20 August 1974 (1974-08-20) * column 2, line 58 - line 61; figures 1,2 *	1,13	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01P
The present search report has been drawn up for all claims			
Place of search MUNICH		Date of completion of the search 17 March 2004	Examiner Kaleve, A
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 02 6574

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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17-03-2004

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2002079981	A1	27-06-2002	JP	2002076711 A	15-03-2002
			CN	1340878 A	20-03-2002
DE 1591268	B	08-10-1970	DE	1591268 B1	08-10-1970
			GB	1167898 A	22-10-1969
US 4904965	A	27-02-1990	NONE		
US 3831114	A	20-08-1974	CA	994877 A1	10-08-1976
			DE	2404168 A1	21-11-1974
			FR	2227653 A1	22-11-1974
			GB	1455084 A	10-11-1976
			IT	1006169 B	30-09-1976
			JP	50011157 A	05-02-1975
			JP	53009932 B	10-04-1978



ABSTRACT / ZUSAMMENFASSUNG / ABREGE

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A nonreciprocal circuit device and a communication device having a nonreciprocal circuit device in which each end portion of each center electrode (22) in the bottom layer of a multilayer-electrode structure on a surface of ferrite (20) is thickened by forming a filled-in electrode (25A) in an opening in first and second insulating films on the upper surface of the end portion of the center electrode in the bottom layer. Each end portion of each center electrode (21) in the second layer is thickened by forming a filled-in electrode (25B) in an opening in the second insulating film on the upper surface of the end portion of the center electrode in the second layer. Each end portion of each center electrode (23) in the top layer (third layer) is thickened by forming a filled-in electrode (25C) in an opening in the second insulating film on the lower surface of the end portion of the center electrode in the top layer.